AMENDMENTS TO THE CLAIMS

1. (withdrawn): A moving pictures encoding method, by which a frame of input signals of an interlaced image is treated as a picture, and prediction and encoding are performed for the picture in macro-block units from both a forward picture, which is temporally in the past, and a backward picture, which is in the future, the moving pictures encoding method comprising the steps of:

performing motion prediction between fields, which treat as a unit a field, which divides each picture in macro-block units into either odd numbers or even numbers of pixel scanning lines of the frame when encoding is performed in accordance with a prediction from both the forward picture and the backward picture;

selectively switching in picture units, as a prediction mode, between the use of prediction from a forward field motion vector for one field, and the use of prediction from a backward field motion vector for the other field;

generating a predictive picture corresponding to the selected prediction mode; and

encoding the input signals using the generated predictive picture.

2. (withdrawn): A moving pictures encoding method, by which a frame of input signals of an interlaced image is treated as a picture, and prediction and encoding are performed for the picture in macro-block units from both a forward picture, which is temporally in the past, and a backward picture, which is in the future, the moving pictures encoding method comprising the steps of:

performing motion prediction between fields, which treat as a unit a field, which

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divides each picture in macro-block units into either odd numbers or even numbers of pixel scanning lines of the frame when encoding is performed in accordance with a prediction from both the forward picture and the backward picture;

constantly using, as a prediction mode, prediction from a forward field motion vector for one field, and prediction from a backward field motion vector for the other field;

generating a predictive picture corresponding to this prediction mode; and

encoding the input signals using the generated predictive picture.

3. (withdrawn): The moving pictures encoding method according to claim 1, further comprising the steps of:

detecting a scene change of said input signal picture in a field unit, which is divided into either odd numbers or even numbers of pixel scanning lines of said frame; and

selecting a prediction from a forward field motion vector for one field, and a backward field motion vector for the other field, relative to a picture, in which a scene change exists between the fields of the frame in the input signal picture.

Claim 4. (cancelled)

5. (withdrawn): A moving pictures encoding method, which performs encoding by treating a frame of input signals of an interlaced image as a picture, and treating a macro-block as a unit, the moving pictures encoding method comprising the steps of:

detecting a scene change of this input signal picture in a field unit, which is

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divided into either odd numbers or even numbers of pixel scanning lines of a frame; and

performing encoding for a picture, for which inter-picture prediction is

performed from a picture of at the least both of a forward picture, which is temporally in the

past, and a backward picture, which is in the future, and for a picture, in which a scene change

exists between intra-frame fields in this input signal picture, treating either this forward picture,

or this backward picture as the same data.

6. (withdrawn): The moving pictures encoding method according to claim 5, wherein

the encoding includes the steps of fixing the encoding prediction direction to one direction

frame prediction; making the motion vector always equal 0, and also making the encoding

difference data always equal 0; and treating the picture as the same data as either a forward

reference picture or a backward reference picture.

7. (withdrawn): The moving pictures encoding method according to claim 5, wherein

the encoding includes the steps of treating said picture as the same data as either a forward

reference picture or a backward reference picture; and setting sets either a forward reference

picture or a backward reference picture as the current frame picture when setting the coded

original picture.

8. (withdrawn): An interlaced picture signal inputting method, which inputs an

interlaced picture as input signals, the interlaced picture signal inputting method comprising the

steps of:

detecting a scene change of this input signal picture in a field unit, which is

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divided into either odd numbers or even numbers of pixel scanning lines of a frame of this

picture; and

repeatedly outputting one field relative to a picture in which a scene change

exists between intra-frame fields in this input signal picture.

9. (withdrawn): A moving pictures encoding method, which performs encoding by

treating a frame of input signals of an interlaced image as a picture, and treating a macro-block

as a unit, the moving pictures encoding method comprising the steps of:

detecting a scene change of this input signal picture in a field unit, which is

divided into either odd numbers or even numbers of pixel scanning lines of a frame; and

repeatedly outputting one field of this picture when there is a picture for which

prediction is performed from a picture of both of a forward picture and a backward picture, and

a scene change exists between intra-frame fields in this input signal.

10. (withdrawn): A moving pictures decoding method comprising the steps of

decoding a moving pictures encoded signal corresponding to encoding that applies motion

compensation corresponding to prediction from a forward field motion vector for one field, and

a backward field motion vector for the other field.

11. (withdrawn): A moving pictures encoding apparatus, in which a frame of input

signals of an interlaced image is treated as a picture, and which performs prediction and

encoding for the picture in macro-block units from either each of a forward picture, which is

temporally in the past, and a backward picture, which is in the future, or from a bi-directional

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picture, the moving pictures encoding apparatus comprising:

field motion vector detecting means for performing motion prediction between fields, which treat as a unit a field, which divides each picture in macro-block units into either odd numbers or even numbers of pixel scanning lines of the frame when encoding is performed in accordance with a prediction from the bi-directional picture;

prediction mode selecting means for selectively switching in picture units, as a prediction mode, between the use of prediction from a forward field motion vector for one field, and the use of prediction from a backward field motion vector for the other field;

motion compensating means for generating a predictive picture corresponding to a prediction mode selected in accordance with this prediction mode selecting means; and

encoding means for encoding this input signal using a predictive picture generated in accordance with this motion compensating means.

12. (withdrawn): A moving pictures encoding apparatus, in which a frame of input signals of an interlaced image is treated as a picture, and which performs prediction and encoding for the picture in macro-block units from either each of a forward picture, which is temporally in the past, and a backward picture, which is in the future, or from a bi-directional picture, the moving pictures encoding apparatus comprising:

field motion vector detecting means for performing motion prediction between fields, which treat as a unit a field, which divides each picture in macro-block units into either odd numbers or even numbers of pixel scanning lines of this frame when encoding is performed in accordance with a prediction from this bi-directional picture;

motion compensating means for constantly using as a prediction mode prediction

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from a forward field motion vector for one field, and from a backward field motion vector for the other field, and for generating a predictive picture corresponding to this prediction mode; and

encoding means for encoding this input signal using a predictive picture generated in accordance with this motion compensating means.

13. (withdrawn): The moving pictures encoding apparatus according to claim 11, further comprising:

scene change detecting means for detecting a scene change of said input signal picture in a field unit, which is divided into either odd numbers or even numbers of pixel scanning lines of said frame; and

said prediction mode selecting means enters into a selection item a prediction from a forward field motion vector for one field, and from a backward field motion vector for the other field, relative to a picture, in which a scene change exists between the fields of this frame in this input signal picture.

14. (withdrawn): A moving pictures encoding apparatus, which treats an interlaced picture as an input signal, and which treats a macro-block as a unit, the moving pictures encoding apparatus comprising:

scene change detecting means for detecting a scene change of said input signal picture in a field unit, which is divided into either odd numbers or even numbers of pixel scanning lines of a frame;

inter-picture predicting means for performing prediction from a picture of either

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each or both of a forward picture, which is temporally in the past, and a backward picture, which is in the future;

frame encoding means for encoding an input signal picture frame as a picture;

field encoding means for encoding an input signal picture field as a picture; and

encoding switching means for switching in frame units encoding in accordance with this frame encoding means and field encoding means,

and performing control so that encoding is performed using this field encoding means in accordance with this encoding switching means for a picture, for which inter-picture prediction is performed from a picture of at the least both of this forward picture and this backward picture, and for a picture, in which a scene change exists between intra-frame fields in this input signal picture.

15. (withdrawn): A moving pictures encoding apparatus, which performs encoding by treating an interlaced picture as an input signal, and by treating a macro-block, which is a sub-block thereof, as a unit, the moving pictures encoding apparatus comprising:

scene change detecting means for detecting a scene change of an input signal picture in a field unit;

frame encoding means for encoding this input signal picture frame as a picture;

inter-picture predicting means for performing prediction from a picture of either each or both of a forward picture, which is temporally in the past, and a backward picture, which is in the future; and

controlling means for performing control relative to a picture, for which inter-picture prediction is performed from a picture of at the least both of this forward picture and this

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backward picture, and for a picture, in which a scene change exists between intra-frame fields in an input picture, so as to encode this picture in accordance with this frame encoding means, having the same data as either a forward reference picture or a backward reference picture.

16. (withdrawn): The moving pictures encoding apparatus according to claim 15, wherein:

said controlling means controls said frame encoding means so that a picture is encoded having the same data as either a forward reference picture or a backward reference picture, and has means for fixing an encoding prediction direction to one direction frame prediction; and

there are further comprised means for constantly making a motion vector 0; and

means for also constantly making encoding difference data 0.

17. (withdrawn): The moving pictures encoding apparatus according to claim 15, wherein:

said controlling means controls said frame encoding means so that said picture is encoded having the same data as either a forward reference picture or a backward reference picture, and sets either a forward reference picture or a backward reference picture as a current frame picture when setting a coded original picture.

18. (withdrawn): A moving pictures input switching apparatus, comprising:

scene change detecting means for detecting in a field unit a scene change of an interlaced picture to be inputted; and

means for repeating one field relative to a picture in which a scene change exists between intra-frame fields in this interlaced picture to be inputted.

19. (withdrawn): A moving pictures encoding apparatus, which performs encoding by treating an interlaced picture as an input signal, and by treating a macro-block as a unit, the moving pictures encoding apparatus comprising:

scene change detecting means for detecting a scene change of this input signal picture in a field unit;

frame encoding means for encoding this input signal picture frame as a picture; and

inter-picture predicting means for performing prediction from a picture of either each or both of a forward picture, which is temporally in the past, and a backward picture, which is in the future,

and the frame encoding means performs encoding by repeating one field relative to a picture, for which inter-picture prediction is performed from a picture of both of a forward picture and a backward picture, and for a picture, in which a scene change exists between intra-frame fields in an input picture.

20. (withdrawn): A moving pictures decoding apparatus, which corresponds to any of the moving pictures encoding apparatus according to claims 11, and which has motion compensating means corresponding to prediction from a forward field motion vector for one field, and from a backward field motion vector for the other field.

21. (withdrawn): A moving pictures decoding apparatus, which corresponds to any of the moving pictures encoding apparatus according to claim 12, and which has motion compensating means corresponding to prediction from a forward field motion vector for one field, and from a backward field.

22. (withdrawn): A moving pictures decoding apparatus, which corresponds to any of the moving pictures encoding apparatus according to claim 13, and which has motion compensating means corresponding to prediction from a forward field motion vector for one field, and from a backward field.

23. (new): A moving pictures encoding method for encoding a picture frame of an input signal by predicting from both forward and backward picture frames, the picture frame having top and bottom fields, which respectively include odd numbers and even numbers of pixel scanning lines of the picture frame, the method comprising the steps of:

first predicting in a macro-block unit composed of (n x n) pixels, the top field of the picture frame from either one of top and bottom fields of the forward picture frame, and the bottom field of the picture frame from either one of top and bottom fields of the backward picture frame;

generating a predictive picture according to the prediction; and

encoding the picture frame of the input signal by using the generated predictive picture.

24. (new): The moving pictures encoding method according to claim 23, further

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comprising the steps of:

second predicting in the macro-block unit, the top and bottom fields of the picture frame from both the forward and backward picture frames; and

selectively performing the first predicting.

25.(new): The moving pictures encoding method according to claim 24, further comprising the step of detecting if there is a scene change between the top and bottom fields of the picture frame of the input signal; and wherein when the scene change is detected, the first predicting is performed.

26. (new): A moving pictures encoding apparatus, in which a picture frame of an input signal encoded by predicting from both forward and backward picture frames, the picture frame having top and bottom fields, which respectively include odd numbers and even numbers of pixel scanning lines of the picture frame, the moving pictures encoding apparatus comprising:

field motion vector detecting means for performing first predicting in a macro-block unit composed of (n x n) pixels, the top field of the picture frame from either one of top and bottom fields of the forward picture frame, and the bottom field of the picture frame from either one of top and bottom fields of the backward picture frame;

motion compensating means for generating a predictive picture according to the prediction; and

encoding means for encoding the picture frame of an input signal using the generated predictive picture.

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27.(new): The moving pictures encoding apparatus according to claim 26, further comprising prediction mode selecting means for selecting whether or not

second predicting in the macro-block unit, the top and bottom fields of the picture frame from both the forward and backward picture frames; and

selectively performing the first predicting.

28.(new): The moving pictures encoding apparatus according to claim 27, further comprising a detecting means for detecting if there is a scene change between the top and bottom fields of the picture frame of the input signal; and wherein the field motion vector detecting means performs the first predicting, when the scene change is detected.